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# BILINGUAL LANGUAGE ASSESSMENT: CONTEMPORARY PRACTICE VERSUS RECOMMENDED PRACTICE

Graciela Arias

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Due to the increasing number of culturally and linguistically diverse students within American school systems, speech-language pathologists (SLPs) in school settings must be prepared to distinguish between typically developing bilingual students and those with language impairments. The purpose of this study was to identify current practices of school-based SLPs for bilingual language assessment and compare them to both American Speech-Language-Hearing Association (ASHA) best practice guidelines, and mandates of the Individuals with Disabilities Education Act (IDEA). The study was modeled to replicate Caesar and Kohler's (2007) study to include a nationally representative sample. While the survey was opened over 400 times, 166 respondents completed the survey. Results indicated that the majority of respondents are performing bilingual language assessments. Furthermore, within the most frequently used assessments both formal and informal measures were mentioned as well as assessments administered in both Spanish and English. SLPs identified supports, and barriers to assessment, as well as their perceptions of graduate preparation. The findings of this study demonstrated that while SLPs have become more compliant to ASHA and IDEA

guidelines, there is still room for improvement in terms of perceptions of adequate training in bilingual language assessment.

BILINGUAL LANGUAGE ASSESSMENT: CONTEMPORARY  
PRACTICE VERSUS RECOMMENDED PRACTICE

GRACIELA ARIAS

A Thesis Submitted in Partial  
Fulfillment of the Requirements  
for the Degree of

MASTER OF SCIENCE

Department of Communication Sciences and Disorders

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2015

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BILINGUAL LANGUAGE ASSESSMENT: CONTEMPORARY  
PRACTICE VERSUS RECOMMENDED PRACTICE

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G.A.

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## CHAPTER I

### INTRODUCTION

Within the American school system, there has never been a time in which such variety of cultural and linguistic diversity has been present as there is currently. The National Center for Education Statistics (NCES) reports that in the 2010-2011 academic year, there were approximately 4.7 million English-Language Learning (ELL) students in the United States (U.S. Department of Education, 2013). Students representing a vast range of ethnicities and languages are being introduced to American culture in schools while they continue to learn about their native culture at home.

As the amount of students from diverse backgrounds continues to increase, so also linguistic diversity increases. Bilingual students may be exposed to multiple languages at home, or may have learned a native language at home and were introduced to English when they began school. ELL students are defined as those who are acquiring English as a second language, while fluent in a different, primary language (e.g., Spanish or French). While there is currently no consensus on a definition of bilingualism, researchers have attempted to use operational definitions to describe the populations in question (Gorman & Gillam, 2003). A common thread in the literature is an understanding of two types of bilingualism: simultaneous, meaning both languages were learned from birth and sequential wherein a native language is learned before

introduction to a second language (Gorman & Gillam, 2003). For the purposes of this paper, bilingualism will be defined as any exposure to a language other than English in multiple functional contexts (Caesar & Kohler, 2007).

Moreover, SLPs must be able to identify whether variation in language learning constitutes a language difference or a language disorder. Factors which may impact dual language learning include: exposure to each language, social and functional status of each language, and relative complexity of morphosyntactic structures (Paradis, Genessee, & Crago, 2011). A language difference is present when a child's language may not be the majority dialect, but is accepted by the child's community (Roseberry-McKibbin, 2007). Conversely, a disorder is present when language structures are impaired and affect the child's ability to interact across environments (Roseberry-McKibbin, 2007).

Researchers have noted that at younger ages, students who are bilingual are underrepresented in special education programming as professionals attribute learning deficits to second language acquisition (Kapantzoglou, Restrepo & Thompson, 2012). Conversely, in later elementary grades, there is overrepresentation of students who are bilingual in special education programming as low academic skills raise concerns (Kapantzoglou et al., 2012). Careful assessment of language function and use is critical to differentiate between language differences and language disorders in children who speak more than one language. Because the prevalence of language disorders is not bound by cultural ties, school-based SLPs must be prepared to identify bilingual students suspected of having language impairment. Whether intervention is provided depends upon how well clinicians choose, administer, and interpret assessment measures to discriminate between

language differences, delays, and language disorders. Thus, it is incumbent upon school-based speech-language pathologists (SLPs) to have knowledge and skills to be able to make accurate diagnoses in the students they serve.

Current practice protocol for language assessment of bilingual and English language learners is described by the American Speech-Language Hearing Association (ASHA) as:

Speech-language assessment for individuals who are bilingual and/or learning English as an additional language (i.e., ‘English Language Learners, ELL’) comprises services to assess speech-language and communication functioning (strengths and weaknesses) in an individual's first language (L1) or a second language (L2). Bilingual assessment services include identification of language use (i.e., the language the individual speaks or is exposed to most of the time) and language proficiency (i.e., degree of ability in each language). In addition, assessment addresses potential impairments, associated activity and participation limitations, and context barriers and facilitators. (2004, p.52)

Furthermore, SLPs in schools are held accountable to the Individuals with Disabilities Education Act (IDEA) which provides general guidelines for assessment practices as follows:

Each public agency must ensure that—(1) Assessments and other evaluation materials used to assess a child under this part—(i) are selected and administered so as not to be discriminatory on a racial or cultural basis; (ii) are provided and

administered in the child's native language or other mode of communication and in the form most likely to yield accurate information on what the child knows and can do academically, developmentally, and functionally, unless it is clearly not feasible to so provide or administer; (iii) are used for the purposes for which the assessments or measures are valid and reliable; (iv) are administered by trained and knowledgeable personnel; and (v) Are administered in accordance with any instructions provided by the producer of the assessments (Individuals with Disabilities Act, 2004).

In 2007, Caesar and Kohler sought to compare best practice guidelines for bilingual language assessment described by ASHA and IDEA with clinical practice of school-based SLPs in Michigan. Best practice guidelines at the time of the study included appropriate use of translators, alternative measures including dynamic assessment, formal standardized tests, and interviewing techniques. Further, guidelines explained that comprehensive case histories including cultural, linguistic, and familial differences were essential for any bilingual assessment. The authors also sought to address the differences in use of bilingual assessment practice related to years of experience, perceptions of academic preparation, and or student characteristics (diversity, students' grade); (Caesar & Kohler, 2007).

To ascertain current bilingual language assessment strategies used by school-based SLPs, Caesar and Kohler (2007) constructed a survey and sent it to 596 public school SLPs in Michigan. Of the 409 respondents, 283 reported having bilingual children on their caseloads and 130 indicated that they had performed assessments of

culturally and linguistically diverse (CLD) students. Their results demonstrated that the most frequently used language assessment measures with bilingual children were the *Peabody Picture Vocabulary Test* (PPVT), the *Clinical Evaluation of Language Fundamentals, 3<sup>rd</sup> Edition* (CELF-3), language sampling, the *Expressive One Word Picture Vocabulary Test* (EOWPVT), and parent/teacher interviews, ninety-eight percent of survey respondents reported use of English-only instruments to assess the language of bilingual children. Of these, the two most common standardized measures were the PPVT and the CELF-3 administered in English.

In terms of informal measures, the most commonly used assessment measure was the collection of a language sample; however, the results showed that 68% of respondents reported collecting language samples in English only. Dynamic assessment was not mentioned by respondents as a common component of their bilingual language assessments. Additionally, when Caesar and Kohler (2007) examined the data to find correlations that might exist between the top measures used and years of experience, they found only one significant, but weak, positive correlation. This was between years of experience and observation in multiple contexts. The results also indicated that SLPs who listed high school as their primary employment setting used recommended practices significantly less than any other setting. Overall, only 28% of participants reported that their graduate program provided them with sufficient theoretical knowledge for bilingual language assessment.

The results of Caesar and Kohler's (2007) study revealed that there is a strong likelihood that school based SLPs will conduct language assessments with bilingual



students. Furthermore, less than 1% of the survey respondents were bilingual, indicating a need for both bilingual and monolingual SLPs to be well prepared to perform non-biased language assessments. The authors postulated that factors including the number of represented languages, caseload size, and prior training may be related to inappropriate assessments of bilingual children. They also suggested that graduate programs review their curricula to ensure adequate training in terms of both theoretical and practical knowledge of how to perform bilingual assessments.

### **Purpose of the Investigation**

The purpose of the current study is to expand and replicate Caesar and Kohler's 2007 study to include a national sample of survey respondents to ascertain current practices of school-based SLPs in bilingual language assessment. Specifically, this study will address the following five research questions:

- (1) What practices are SLPs currently using to assess bilingual students with a suspected language impairment?
- (2) What is the frequency of use of standardized assessment measures in bilingual language assessment?
- (3) What are some barriers to the use of dynamic assessment by SLPs conducting bilingual language assessments?
- (4) To what extent do SLPs conform to best practice guidelines of IDEA and ASHA when engaging in bilingual language assessment?

(5) How differences in SLPs' use of recommended guidelines relate to Caesar and Kohler's (2007) study?

## CHAPTER II

### REVIEW OF RELEVANT LITERATURE

#### **Language Differences and Disorders: Current Assessment Practices**

As school-based SLPs seek to conduct language assessments with bilingual students, it is critical to bear in mind that cultural and linguistic differences do not constitute a language disorder. Rather, a language disorder is present when a child's language deficits adversely affect social, psychological, and emotional functioning across environments (Turnbull & Justice, 2011). It is widely accepted that bilinguals are not accurately described as two monolinguals in one (Grosjean, 1989), this means that a bilingual child will not acquire each language separately, but rather languages are somewhat interdependent. As research continues to emerge regarding bilingual language acquisition, the developmental trajectory of language in bilingual children may become clearer (Thordardottir, Rothenberg, Rivard & Naves, 2006). Thus, it is imperative that clinicians gain knowledge about linguistic differences in the child's native language to help determine whether notable concerns or differences in language are developmental, cultural, or atypical.

Bedore and Peña (2008) described clinical markers of language impairment in monolingual and bilingual children. They found that similar to monolinguals, bilingual children with language impairment display vocabulary deficits, which may include word-finding difficulties evidenced by substitutions and circumlocution. Restrepo (1998)

corroborated these findings in Spanish-speaking bilingual children with language impairment who evidenced difficulty learning novel vocabulary, as well as difficulty with morphosyntactical structures (e.g., errors in tense, number agreement, gender, pronouns, and plurals). Further similarities included errors in tense related morphemes (Bedore & Peña, 2008). On the other hand, bilingual children also appeared to display entirely different error patterns, including increased first language loss, and showed different error patterns than those observed in bilingual children with typical language development (Bedore & Peña, 2008).

In 2011, Dollaghan and Horner conducted a meta-analysis to examine diagnostic accuracy of bilingual language assessment techniques. The aim of this study was not to identify one measure as the most favorable, but rather to identify strengths and weakness of measures as described in the relevant literature. Articles that investigated bilingual language assessment and met the following criteria were included in the study: (a) participants in the study were Spanish-English speakers, (b) participants fell between 3-15 years of age, (c) study included a sample size including at least five language impaired (LI) students and five typically developing (TLD) students, (d) information related to sensitivity and specificity was provided for all measures utilized. These criteria resulted in the selection of nine articles and 17 assessment measures. The authors explained that the included studies used differing definitions of bilingualism, and used varying measures in order to distinguish between LI and TLD groups. The consensus of identification of students with LI generally depended upon a combination of clinical judgment of a bilingual professional and parent/teacher reported concerns. Similarly, children placed in

TLD control groups were identified based on a lack of parent/teacher concern. In both cases, some studies verified their placement decisions using formal tests.

The analysis indicated that there is no one measure which is ideal for identification of language disorders in Spanish-English bilingual children. Each measure's diagnostic accuracy fell within the suggestive range for impairment (with a positive likelihood ratio of 3.0 or negative likelihood ratio of .30; Dollaghan, 2011), meaning that any measure would need to be used in conjunction with other measures to corroborate conclusions regarding the child's linguistic abilities. The meta-analysis revealed that while there is limited available research due to the relatively recent interest in bilingual language assessment, researchers should consider the biases which may be inherent in study designs. Further, the authors found a lack of explanations in terms of how both LI and TLD participants were selected, and whether or not participants' information/performance was used in multiple studies. The analysis also demonstrated that researchers are not currently controlling for potential subjective bias by a lack of description of blinding of examiners to information regarding diagnostic status. The authors suggested that future studies minimize subjective bias by providing evidence of inter-examiner reliability for assessment measures.

The literature regarding bilingual language assessment points to several measures as having promise in discriminating between TLD and LI with no single measure identified as valid and reliable on its own. Peña (2007) asserted that knowledge about developmental trajectories for children who speak a language other than English, as well as for English language learners, remains opaque, yet it is a crucial component to service

delivery. She warns of common pitfalls of using translated measures which are pertinent to clinicians and researchers alike. In order to reduce bias in the development and review of language assessments, SLPs should consider linguistic equivalence, functional equivalence, cultural equivalence, and metric equivalence in translations of English based-measures (Peña, 2007). Clinicians should also be aware of the effects and paths of interdependence between the child's native language and the language being acquired (Cumins, 1979). Additionally, clinicians must examine test manuals to ensure that the child's demographic profile is represented in the normative sample of standardized assessments (Friberg, 2010).

### **Standardized Assessments**

Caesar and Kohler (2007) found that six of the 10 most commonly used measures for bilingual language assessment were standardized tests. Of the six standardized measures identified in this study, three were vocabulary tests, and three were omnibus language tests. Additionally, "analysis of the formal measures listed indicated that 98% of the respondents used procedures that were published as English measures" (p.194). This becomes problematic because bilingual children may not be represented in the normative sample, and the tests will not be able to accurately identify clinical markers of impairment (Bedore & Peña, 2007). Further, as administrators often seek standard scores obtained from standardized tests as a basis for qualification for specialized school-based services, it is imperative that SLPs have an understanding of when and how to use scores appropriately.

Understanding the prevalence of standardized tests as diagnostic tools, Huang, Hopkins, and Nippold (1997) sought to ascertain SLP satisfaction with their use. A seven-page survey was mailed to 440 SLPs in Oregon; data were analyzed based on 216 usable returned surveys. The results of this study indicated that there were three main areas of concern for respondents relative to the use of standardized tests: time of administration, multicultural issues, and the budget for assessments. Caseload size impacted respondents' feelings about standardized assessments, with SLPs having larger caseloads being less satisfied with standardized test use. Because of this correlation between caseload size in schools and dissatisfaction with standardized assessments, the results suggested that SLPs do not have time to adequately complete global language diagnostics using solely standardized measures. Also, Huang et al. (1997) suggest that the reliance upon standardized test scores as a basis for diagnosis in monolingual English speaking children leaves clinicians at a disadvantage with children who come from CLD backgrounds, as there is a lack of standardized assessments in foreign languages, resulting in reliance upon standardized tests written for English speakers being used with bilingual children.

### **Features of Standardized Assessments**

Similarly, while standardized assessments may yield valuable information about a child's general language ability compared to similar aged/gendered children, the results they yield are not always accurate. Friberg (2010) used 11 criteria to examine the psychometric validity of nine commonly used assessment tools with high levels of diagnostic accuracy. For the purposes of this article, diagnostic accuracy was measured

using sensitivity and specificity values reported by test publishers. Sensitivity refers to the proportion of individuals with a particular disorder who are accurately identified as disordered by the test or measure in question. Specificity on the other hand, refers to the proportion of individuals who do not have a disorder who are correctly identified by the tool or measure as non-disordered (Guiberson & Rodriguez, 2013).

Friberg (2010) evaluated the following assessment tools: CELF-4; *Clinical Evaluation of Language Fundamentals: Preschool, 2nd Edition* (CELF-P2); *Preschool Language Scale, 4th Edition* (PLS-4); *Structured Photographic Expressive Language Test, 3rd Edition* (SPELT-3); *Structured Photographic Expressive language Test: Preschool, 2nd Edition* (SPELT-P2), *Test for Examining Expressive Morphology* (TEEM); *Test of Early Grammatical Impairment* (TEGI); *Test of Language Competence, Expanded Edition* (TLC-E); and *Test of Narrative Language* (TNL). Examiner's manuals were examined for evidence of the following psychometric properties originally compiled by McCauly and Swisher in 1984: (a) identification of purpose, (b) examiner qualifications, (c) test administration instructions, (d) adequate standardization sample size (> 100) (e) clearly defined standardization sample specifically denoting geographic representation, socio-economic status / parent education representation, gender distribution, ethnic background, presence/absence of impairment(s), and age distribution, (f) item analysis, (g) measures of central tendency, (h) concurrent validity, (i) predictive validity, (j) test/re-test reliability, and (k) inter-rater reliability.

Of the aforementioned standardized language assessments, each met at least eight of the eleven criteria. This study indicated that while the reporting of diagnostic



properties appears to be improving, there is still a need for standardized language assessments to be critically analyzed prior to use in diagnostics. Friberg found that few tests have acceptable levels of diagnostic accuracy at this point in time. Therefore, clinicians must be vigilant to ensure that assessments have appropriate diagnostic accuracy for use in diagnosing to avoid misdiagnoses (Friberg, 2010). This study also identified a common test selection error made by school-based SLPs: the selection of a test to administer to a child not represented within the test's normative sample. Friberg indicated this as being of particular concern with bilingual and impaired populations. If the child's demographic and linguistic profile is not represented within the normative sample, the test will be unable to identify whether the child's language is different or impaired. *The Handbook of Multicultural Assessment: Clinical, Psychological, and Educational Applications* (2007) explains that both the reliability and validity of assessments are questionable when used with children who are not represented in the normative sample. Because of the limited number of standardized language measures which have appropriate levels of diagnostic accuracy in English, and the inclusion of bilingual children in only a few standardized tests of language, there are even fewer standardized assessments that should be used with bilingual children suspected of having language impairment.

In the same vein, Betz, Eickhoff, and Sullivan (2013) sought to examine whether or not a correlation exists between the quality of language assessments and the frequency of their use. Since standardized assessments are commonly used in diagnostics, the authors wanted to identify the factors which influence SLPs in the United States to use

standardized language assessment measures. Frequency of test use was paired with factors including: “publication year, administration time, standard error measurement (SEM), test-retest reliability, criterion- related validity, sensitivity, specificity, and mean difference score between an impaired and unimpaired group” (Betz et al., 2013, p.138). The results indicated that the only factor with a significant correlation was the publication year of the tests. This reveals that SLPs choose to administer assessment measures based on how new the test is, rather than the diagnostic accuracy of the tests. Findings also showed that the type of language assessments which were most frequently used in diagnoses included omnibus tests and expressive vocabulary tests. Of the top 10 most frequently used standardized language assessments, four tests examined only vocabulary including the EOWPVT, *Receptive One Word Picture Vocabulary Test* (ROWPVT), PPVT, and *Expressive Vocabulary Test* (EVT). Studies have shown that such limited assessments are not sufficient to accurately identify children with LI (Bedore & Peña, 2008).

Furthermore, a common assumption among SLPs is that children with language impairments will present with low scores on standardized language assessments. Many school systems seem to support this notion by requiring children to score below an arbitrary cutoff score on at least one standardized language assessment in order to receive services. Spaulding, Plante, and Farinella (2006) sought to examine whether test manuals supported the concept that children with LI will obtain lower scores than their typically developing peers, and whether examiner’s manuals provide information regarding sensitivity and specificity. Spaulding et al. (2006) noted that cutoff scores for a diagnosis

of language impairment can range from -1.5 SD to -2.0 SD below the mean. This is problematic for accurate diagnosis due to the variety of skills language assessments measure. For example, if assessments which target lexical size or the whole of English morphology are chosen, they may not be as accurate for differential diagnoses as tests which identify common errors in children with SLI.

Spaulding et al. (2006) analyzed 43 language assessments. These assessments were chosen based on whether manuals indicated that they were appropriate for differential diagnoses, as well as if they were standardized. The exceptions to this were the *Diagnostic Evaluation of Language Variance* (DELV), the *Renfrew Bus Story*, and the SPELT-3. These were included, despite being criterion referenced or screening measures, because the manuals state that they can be used for identifying impairment in children. When mean group differences were calculated indicating the average difference between scores of children with LI and typically developing peers, the average mean group difference across all 43 assessments examined was -1.34 SD, which does not meet the cutoff of -1.5 SD. Further, results from nine of the assessments demonstrated mean group differences indicating that children with LI scored within 1 SD of the overall mean. This means that children with LI scored nearer to the normative group mean than the traditional -1.5 SD below the mean cutoff score. The results showed that only nine of the 43 assessments that were examined provided information in regard to sensitivity and specificity in the examiner's manuals.

Altogether, the results showed that using a cutoff score in the diagnosis of language impairment will undoubtedly yield inconsistent identification when applied

across tests (Spaulding et al., 2006). Based on these findings, SLPs are cautioned not to use an arbitrary cutoff score for the diagnosis of a language disorder in monolinguals. Bilingual students may be at a disadvantage if cutoff scores are used due to decreased English proficiency rather than their overall language abilities.

One common issue with the use of standardized assessments with bilingual children is whether Spanish versions of English language tests are appropriate for administration. Bedore and Peña (2008) explained how Spanish assessment measures based on English versions may be misleading. An example of this can be found in the *Estructura de Palabras* (Word Structure) subtest of the *Clinical Evaluation of Language Fundamentals Spanish* (CELF-S), the subjunctive past syntactical form which is specific to Spanish is included, even though the present and past tense forms are likely to be easier for Spanish speaking children with language impairment (LI) to comprehend than they would be for their English speaking counterparts (Bedore & Peña, 2008). Thus, it would behoove test makers to provide item analyses within examiner's manuals for SLPs to examine the extent to which the translated measure assesses the child's abilities in the specified language (Bedore & Peña, 2008). As is the case with other areas of standardized test selection, it is incumbent upon SLPs to examine whether or not Spanish versions of assessment measures are valid for the purpose for which they are used to assess the appropriateness of their use for diagnosis of bilingual students.

Despite the reality that SLPs primarily use standardized assessments to identify LI in bilingual children, recent literature suggests that a battery of alternative assessments may be more effective. Research has shown that due to the heterogeneity of typically

developing bilingual students' abilities and exposure to learned languages, students may perform below normal limits in standardized assessments of one or both languages (Thordardottir et al. 2006). Thordardottir et al. (2006) conducted a study comparing typically developing French-English bilingual pre-school students with monolingual peers. Their results indicated that due to changes in ability and proficiency, assessment should be conducted in both languages of a bilingual student whenever possible. Also, because bilingual children do not present with language acquisition profiles that are comparable to their monolingual peers in either language, performance on standardized measures that had a standardization sample of monolinguals of either language may be poor (Bedore & Peña, 2008). Thus, even if assessments are given in both languages, results are unlikely to give an accurate portrayal of the child's linguistic abilities if the bilinguals are not represented in the normative sample. Due to the complexities of language development and function, triangulation of findings obtained through a standardized assessment is very valuable to the language assessment model. For this reason, among others, alternative assessment measures may be used.

### **Alternative Language Assessment Measures**

**Dynamic assessment.** Gutierrez-Clellen and Peña (2001) offered insight into the methods of dynamic assessment, which may be used in differential diagnosis in culturally diverse children and outlined a protocol for the use of this alternative assessment technique. The dynamic assessment model is based on Vygotsky's concept of the "zone of proximal development," and aims to minimize the effects of biases in assessments in order to identify what a child is able to learn rather than the exposure a child has had with

standardized assessments and their content. There are three methods of dynamic assessment: graduated prompting, testing the limits, test-teach-retest. Graduated prompting involves providing hierarchical prompts in order to facilitate gains within the child's zone of proximal development. There are two ways to use the testing the limits method. In the first, traditional tests are administered with extended feedback about the correctness of an item, and why it was correct; in the second, a clinical interview is incorporated into the diagnostic. The test-teach-retest method requires that the clinician first identify the skills that appear to be developmentally delayed, and those that may be due to a lack of exposure. Next the clinician will implement a mediated learning experience (MLE) specifically targeting deficient areas. Lastly, the clinician will conduct a post-test to ascertain whether the child made gains in the targeted structure. For the purpose of diagnosis, the test-teach-retest method is the most appropriate as it indicates the child's ability to learn given direct mediation. The fundamental presupposition in this case is that children with language impairments will not demonstrate significant changes even under direct teaching, where typically developing children will show significant improvement due to exposure.

The generally accepted measures to assess whether or not change has occurred are modifiability scores. Rather than simply comparing test results, modifiability scores take into account the child's level of attention, the child's self-regulation, the child's ability to use the adult as a resource, as well as measures of overall responsiveness, ability to transfer new skill to a novel task and the intensity required of the clinician in order to induce change (Gutierrez-Clellen & Peña, 2000). It may also be noted that in previous

research, the number of errors demonstrated by children with LI was less likely to improve than the quality of responses (Gutierrez-Clellen & Peña, 2000). The authors not only explained the methodology of dynamic assessment, but also provided an example of how the test-teach-retest method would be used in a diagnostic evaluation. The researchers conducted a dynamic assessment of two Spanish-English bilingual children, Child A and Child B, in the same Head Start program in their neighborhood in Philadelphia. The children's linguistic abilities were determined based on classroom observation, teacher reports, and parent reports. The participants were also assessed using the *Expressive One Word Picture Vocabulary Test-Revised* (EOWPVT-R) in both Spanish and English, the comprehension subtest of the *Stanford-Binet Intelligence Scale*, and five items selected from the PLS. Both participants scored similarly on the pretest, but showed differences in modifiability as reflected by the post-test scores. The MLE included teaching the participants strategies for using one word labels during two 30 minute sessions conducted two weeks apart. Strategies for MLEs consisted of intentionality (focusing on learning special names), mediation of meaning (the importance of using special names), transcendence (in other contexts), and competence (strategies to label).

In terms of language gain scores, Child A displayed very small gains if any when comparing pre and post- test scores. However, it was noted that responses, while incorrect, were more elaborate in post-test transcripts. The child's inability to transfer skills learned across tasks suggested that intervention to facilitate generalization would be beneficial in this case. Child B, on the other hand, demonstrated high responsiveness

during MLEs. This child received the highest possible modifiability score, which demonstrated that minimal examiner effort was required to make change (Gutierrez-Clellen & Peña, 2000). Thus, the MLE highlighted differences in vocabulary learning which discriminated between typically developing children and children with LI.

Similarly, Kapantzoglou et al. (2012) investigated whether or not a short dynamic assessment of word learning skills using verbal and visual supports would be able to identify preschool bilingual children as having language impairment. The authors sought to examine whether or not using a set of word production and word identification scores after 9, 18, or 27 exposures, combined with modifiability scores would accurately classify children with language impairment. The results of this study showed that dynamic assessment was able to discriminate between typically developing bilingual children and language impaired bilinguals after only nine exposures to novel non-words with 76% sensitivity and 80% specificity. While the results were lower than the 90% criteria required for classification accuracy, this method could be useful in conjunction with other measures to identify children with language impairment. Further, there is no evidence to suggest that there are any other measures which have been known to reach 90% classification accuracy for bilingual children with language impairment (Kapantzoglou et al., 2012). Thus, dynamic assessment is a viable option for SLPs to use as a part of the diagnostic process.

**Language-based processing measures.** Other types of alternative assessment techniques include language-based processing tasks. Due to the reality that children's performance on standardized language assessments is a reflection of experiences with test



language, these assessments are sometimes called knowledge-dependent or experience-dependent. In order to assess children from culturally diverse backgrounds, language-based measures are used. In particular, competing language processing tasks (CLPT) and non-word repetition tasks (NWRT) have been used to identify children from culturally diverse populations with language impairment. Kohnert, Windsor, and Yim (2006) sought to compare results of English monolingual children with language impairment with two groups of typically developing peers: a monolingual English group (EO), and a Spanish-English typically developing group (BI) on two language based assessments.

Participants of this study included 100 children between the ages 7;10 to 13;11 who were recruited through newspaper advertisements and in elementary schools. The CLPT task required participants to listen to a three word sentence and then answer yes or no regarding the truthfulness of the sentence. This process was repeated, and the participants were asked to recall the last word of each of the two sentences. The non-word repetition task involved 16 non-words, including sounds and combinations common to English. Results of both tasks were analyzed using a one-way analysis of variance (ANOVA), and likelihood ratios of identification of children with LI versus the probability of participants being in either of the typically developing groups.

The results of this study showed that differences in scores on the CLPT did not clearly separate the bilingual participants from either the English only or the language impaired group. Conversely, the results of the non-word repetition tasks showed that scores of the bilingual children were significantly greater than the LI group, but significantly lower than the EO group. Likelihood ratios indicated that for the CLPT at

the most sensitive cutoff, scores of less than 12 were nearly three times more likely to have come from a child in the LI group than either of the typically developing group. Additionally, a cutoff score of 35 was the point at which the measure was most specific yielding a likelihood ratio of 0.15, which does not render this task as particularly robust as a diagnostic measure. On the other hand, the NWRT was more accurate in identifying children as impaired; however this measure is limited for use in diagnoses. The likelihood ratios of NWRTs indicated that it is highly specific and may be used to rule out SLI; however, they may not be sufficient to identify children with LI (Kohnert et al. 2006).

NWRTs require individuals to demonstrate ability to perceive, store, recall, and reproduce phonological sequences (Summers, Bohman, Gillam, Peña, & Bedore, 2010). Summers et al. (2010) suggest that the prerequisite skills for NWR tasks are universal for the support of language learning. The value of NWRTs lies heavily in the use of non-words which adhere to the phonotactic constraints of the language being assessed. In other words, the more that non-words sound like they come from a particular language following the rules and frequency of sound combinations, the more likely they will be correctly repeated. For this reason, children rely on their experiences and knowledge of sound patterns to perform NWRTs. Summers et al. also asserted that the better children are at manipulating morphemes, the more successful they will be at repeating non-words. They concluded that performance was influenced by knowledge and experience with language; thus, performance on NWRTs may shift with language dominance and proficiency.

Non-word repetition (NWR) has been identified as a language based task which may serve to give insight to a child's phonological short-term memory (PSTM). This structure influences language as associated skills are related to literacy skills. Lee and Gorman (2013) used this measure to examine group differences between typically developing monolingual English (EO), Korean-English (KE) bilinguals, Chinese-English (CE) bilinguals, and Spanish-English (SE) bilinguals on an English-based NWRTs. They also sought to investigate whether correlations existed between NWR performance, vocabulary, and phonological awareness. Surprisingly, mean group differences were not significant across all four linguistic groups. This finding may have been due to the age of the participants (7 years), proficiency in English, or SES which was not accounted for in this study. Interestingly, more consonantal errors were produced by the KE and SE groups than the ME and CE groups. This result may be related to the number of consonants used in Korean (19) and Spanish (18) in relation to the number of consonants used in English (24) and Chinese (24). In terms of vowel errors, the KE and CE groups exhibited lower accuracy than the ME and SE group, particularly in four and five syllable words. The advantage of the SE group in this instance may have been related to the increased use of multisyllabic words in Spanish. Lee and Gorman argued that knowledge and experience in a native language may support performance on NWRTs.

Furthermore, NWR tasks have been explored as a diagnostic tool for the identification of language impairment. Because of the underlying linguistic skills demonstrated in NWRTs, it has been considered as an assessment tool which may avoid cultural or linguistic bias. Windsor, Kohnert, Lobitz, and Pham (2010) conducted a study

including 69 typically developing monolingual English-speaking participants, 34 monolingual language impaired English-speaking participants, 65 typically developing Spanish-English bilingual participants, and 19 language impaired Spanish-English bilingual participants aged 6;0-11;6 years. Both English and Spanish NWRTs were conducted. The results showed that the language impaired bilingual group demonstrated decreased accuracy at longer syllable lengths in both languages. Both the typically developing and the language impaired bilingual groups demonstrated higher accuracy in Spanish than English. The likelihood ratios for this task indicated that this measure alone has potential value, but would not be appropriate as a sole assessment for impairment.

Similarly, Gutierrez-Clellen and Simon-Cereijido (2010) sought to examine the clinical usefulness of a language based measure, specifically NWRT, in differential diagnoses with Spanish-English bilingual children. They also explored the extent to which language proficiency affected the level of differentiation of the measure. In order to identify language impaired participants, the authors of this study used assessments such as the English Morphosyntax Test and the Spanish Morphosyntax Test of the Bilingual English-Spanish Assessment (BESA) in combination with parent interviews, and language sample analyses. Parent and teacher questionnaires based on a five point scale were also distributed to assess language proficiency and dominance. For the English non-word repetition task (ENWRT), sixteen English non-words were obtained from Dollaghan and Campbell's (1998) list. Spanish non-words were created by the authors for this task and through a process of elimination 20 non-words were chosen to use in the study. The children were presented with the non-word repetition tasks over two days,

conducting the assessment in one language per day. Children were asked to repeat the made-up words exactly as they heard them.

Standing alone, neither the ENWRT nor the SNWRT were able to identify children with language impairments. This may be due to the varying levels of proficiency across both languages. Likelihood ratios indicated that scores below 70% on both the ENWRT and SNWRT were over nine times more likely to have come from a child with LI. The likelihood ratios reinforced findings that assessment in the dominant language alone yields inaccurate results. The findings of this study corroborate previous conclusions about the use of NWRT as a tool for diagnosing CLD children (Gutierrez-Clellen & Simon-Cereijido, 2010).

NWRTs were assessed by Guiberson and Rodriguez (2013) for classification accuracy with Spanish-Speaking preschoolers. This study included 44 predominantly Spanish speaking preschool children (ages 3;0-5;10) recruited from Head Start Programs. They used a NWRT containing 20 non-words following Spanish syllable structure and frequency patterns of phonemes. The items gradually increased in length with stress on the penultimate syllable. Participants were introduced to a puppet and were instructed to repeat the puppet's made-up words exactly as the puppet said them.

Productions were scored by percentage of phonemes correct (PPC), and item-level scores in which the entire non-word was marked as correct or incorrect in relation to the target. A two-way mixed ANOVA was performed to assess whether or not correlations existed between LI status and number of syllables on repetition accuracy.

Age was a covariate that was found to have a significant correlation with NWRT total scores. A trend was observed in which older students outperformed younger students by each year category. That is, 5 year olds outperformed 4 year olds, who in turn outperformed 3 year olds. Similarly, as the number of syllables increased children displayed more difficulty. The results demonstrated that the task yielded acceptable rates of specificity (74%) and sensitivity (71%) when item-level scoring was used.

Evidence demonstrated that NWRTs may be useful to assess skills requisite for literacy and language development. It may provide clinical utility as a non-biased assessment tool in conjunction with other assessment measures. Because NWRTs appear to depend on a child's existing knowledge and experience with the native and second languages, clinicians should use this measure warily as shifts in language dominance may affect performance.

**Other informal assessment measures.** Another way clinicians can obtain information regarding the linguistic structures present in a child's discourse is to collect and analyze a language sample. SLPs might record a conversation with a student in order to later examine the sample for errors common to SLI. As SLPs seek to use non-biased assessment measures, and remain in compliance with IDEA, clinicians may consider collecting language samples in both the child's native language and English. However, conducting language sample analysis can be a daunting task for clinicians who do not have a thorough grasp of the course of language development in foreign languages. When conducting language samples of Spanish-English bilingual children, a variety of factors

must be considered including dialectical differences in either language (Gutierrez-Clellen, Restrepo, Bedore, Peña & Anderson, 2000).

Moreover, clinicians should avoid using the same measures as they would in English to analyze language samples because of the differences in language structure (Gutierrez-Clellen et al., 2000). For example, in Spanish noun-verb agreement is more useful to understand meaning than in English, where word order is more relied upon to convey meaning. A measure that may be useful for Spanish language sample analysis is the number of grammatical errors per terminable unit (T-unit) which has a sensitivity of 70% and specificity of 100% (Gutierrez-Clellen et al., 2000). This measure could be useful in determining whether or not a disorder is present if there are a significant number of errors per T-unit in both the child's first and second languages. It is important to note, however, that code-switching should not be counted as incorrect in either language (Gutierrez-Clellen et al., 2000).

In terms of utterance length and complexity, Gutierrez-Clellen et al. (2000) compared the accuracy of use of mean length of response in words (MLR-w), mean length of terminable units (MLTU), mean length of utterance in morphemes (MLU-m), and mean length of utterance in words (MLU-w). The authors posited that MLR-w was useful for the identification of developmental differences in Spanish speaking children with limited to no English proficiency.

Conversely, MLTU was only found to be useful when results were combined with concerns from parent interviews and the number of grammatical errors per T-unit. The

authors explained that because Spanish is a highly inflected language (seen in gender, person, number, tense, and mood inflections), the number of morphemes is significantly higher than in English. For this reason, this method cannot be used for any utterance which contains code-switching because of the different morphosyntactic structures in each language. Fortunately, the use of MLU-w appears to remove some of the inconsistencies of MLU-m because code-switched utterances generally have a comparable number of words, although they have different morphological markings (Gutierrez-Clellen et al. 2000).

Overall, clinicians seeking to identify whether or not a disorder is present will need to triangulate information acquired through parent interviews, with linguistic skills demonstrated in terms of grammatical errors per T-unit in both languages, and the length and complexity of utterances using MLU-w. Clinicians will need to have an understanding of whether errors are dialect variations, and the levels of proficiency in each language.

## **Conclusion**

In summary, it would appear that literature on bilingual language assessment is in an emergent phase wherein conclusive evidence backing particular methods for identification is not yet available (Dollaghan et al. 2011). However, the need for assessment of bilingual children's language skills is very pervasive in American schools. Presently, the evidence suggests that standardized measures should be used with caution when assessing bilingual children to ensure that they are represented in the normative



sample (Friberg, 2010). Additionally, if the tests are translated, clinicians should be wary of the linguistic equivalence of the items and the validity of the assessment (Peña, 2007). Alternative measures are also proving to be useful indicators of impairment. These include but are not limited to dynamic assessment, NWRT, and language sampling measures.

This literature review has demonstrated that assessment practices commonly used for bilingual children may not be ideal for accurate identification of LI; however, Caesar and Kohler (2007) found that these practices are used commonly with bilingual children. This study seeks to expand on the work of Caesar and Kohler to include a larger nationally representative sample of school-based SLPs to identify frequency of bilingual assessment, identify commonly used standardized and non-standardized assessment methods, and compare them to published best practice guidelines.

## CHAPTER III

### RESEARCH DESIGN

The purpose of this study was to expand and replicate Caesar and Kohler's 2007 study to include a national sample of survey respondents to ascertain current practices of school-based SLPs in bilingual language assessment. Specifically, this study addressed the following five research questions:

- (1) What practices are SLPs currently using to assess bilingual students with a suspected language impairment?
- (2) What is the frequency of use of standardized assessment measures in bilingual language assessment?
- (3) What are some barriers to the use of dynamic assessment by SLPs conducting bilingual language assessments?
- (4) To what extent do SLPs conform to best practice guidelines of IDEA and ASHA when engaging in bilingual language assessment?
- (5) How differences in SLPs' use of recommended guidelines relate to Caesar and Kohler's (2007) study

## **Procedure/Respondents**

Participants included school-based SLPs currently working with children aged 3-21. Participants were invited to complete the survey electronically through selected Special Interest Groups (SIGs) which are sponsored by ASHA. SIGs represent specialized groups with members sharing an interest in a particular type of clinical practice in either speech-language pathology or audiology. Three SIGs were selected for recruitment of participants in this study: Language Learning and Education (SIG 1), School-Based Issues (SIG 16), and Communication Disorders and Sciences in Culturally and Linguistically Diverse (SIG 14). These SIGs were selected to solicit participants due to their nature and focus: each deals with school-based issues and each would contain members with the requisite expertise to serve as participants. Membership within these three groups includes approximately 12,000 SLPs at the time of the study (J. Friberg personal communication, October, 2013). A link to the survey was emailed to the Coordinator (national chairperson) for each SIG for posting to the online community that all members can access. Also, a link was posted to the ASHA Facebook webpage. Approximately 50,000 ASHA members currently have access to this social networking website and were potential participants for this study. The posted message contained a letter explaining the study, its aims and the process for informed consent, as well as a link to the survey for completion and submission.

Due to the lack of respondents, the author and chair contacted a researcher who had followed a similar process and had encountered similar results to inquire about other potential avenues. Once a new method was decided upon, the IRB was amended to

include the new procedures. The survey was then emailed to potential respondents using the ASHA online directory. Undergraduate research assistants were instructed to use the directory to email potential respondents the consent letter with the survey link. The search criteria were narrowed by state (Florida, California, and Texas), certification (CCC-SLP) with primary employment facility being school settings, and primary employment function being clinical service provider. The assistants would then divide the number of results by 250. The assistants would use the quotient (n) as a reference and would email every (n)th name to obtain the desired number of potential respondents. Each potential respondent was contacted individually through the message box on their profile; this method allowed for anonymity as the assistants did not have access to their personal email addresses.

### **Survey Instrument**

A survey instrument titled “Current practices of school-based speech-language pathologists for bilingual language assessment” was created for the purpose of data collection in this study. This survey was created for dissemination in electronic format, using the Select Survey software program at Illinois State University. Demographic information such as gender, state, school setting (rural, urban, suburban), languages spoken, SIG affiliation, and years of experience, perceptions of graduate preparation, caseload size, age category of students, and percent of bilingual students on their caseload was requested of all survey respondents. The remaining content of the survey included 18 closed-ended questions with possible responses provided in a drop-down format and two open-ended, fill-in questions.

Closed-ended questions collected data pertaining to perceptions of graduate preparation, caseload size and composition, and bilingual assessment practices/experiences. Open-ended questions requested that respondents rank their most commonly used assessment tools used for language assessment with bilingual children, and identify types of continuing education opportunities related to bilingual language assessment they have experienced or would prefer. After the survey was first drafted, it was sent to an expert panel consisting of a bilingual university professor in communication sciences and disorders, as well as two currently practicing bilingual SLPs for content analysis. Based on their feedback modifications were made to ensure linguistic clarity and content appropriateness. A copy of this survey instrument can be found in the Appendix for review.

### **Data Analysis**

Participant group data collected from the survey instrument were analyzed and described by demographics using descriptive statistics (mean, standard deviations, percentages). Due to the nature of the research questions and subject, further statistical analysis was not deemed necessary. Data are reported in narrative form through the description and comparison of participant responses. Tables, figures, and charts will be used to represent data best illustrated graphically.

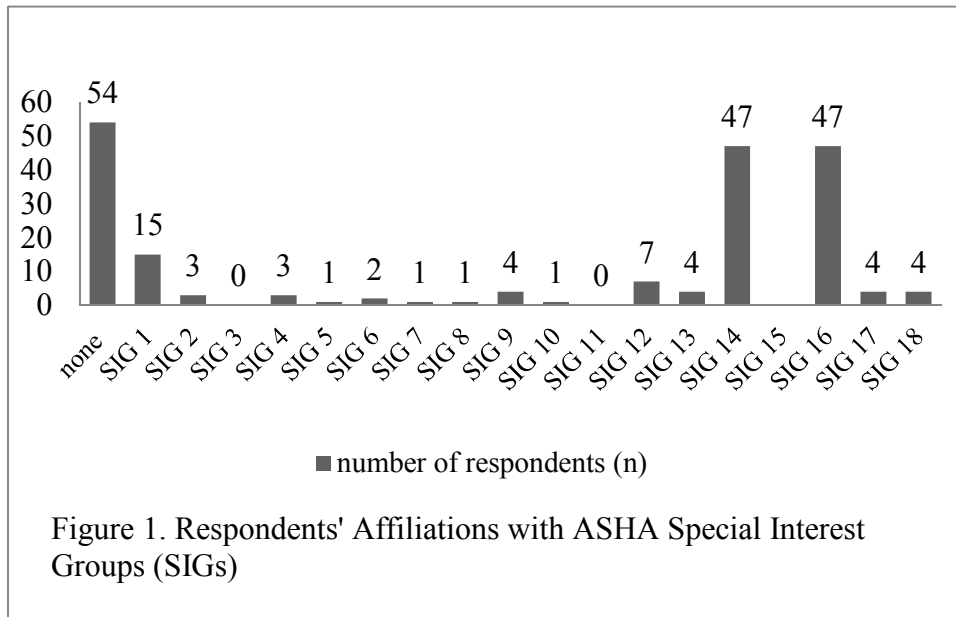
## CHAPTER IV

### RESULTS

#### **Participants**

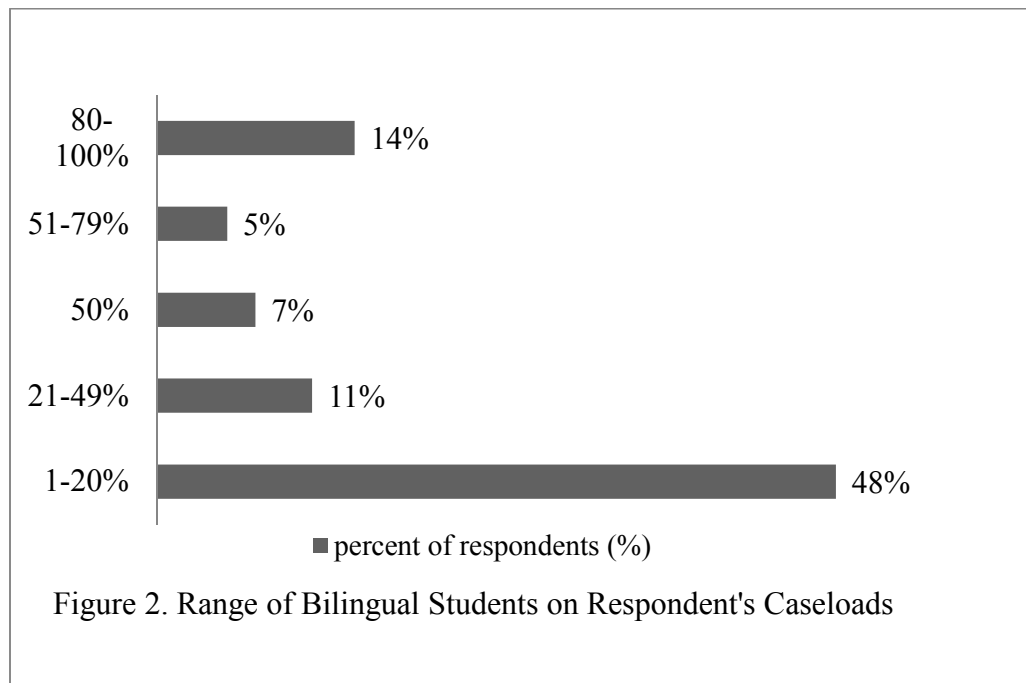
Four hundred potential participants accessed the survey instrument used in this study through clicking on the web-link provided, 166 respondents completed the entire survey. Of the completed surveys, 2% of respondents (n= 4) were male and 98% (n= 162) were female. In terms of demographics, respondents identified themselves as follows: White 83% (n= 138), Hispanic/Latino 10% (n=16), African American 4% (n= 6), Asian/Pacific Islander 1% (n= 2), and other 2% (n= 4). Respondents also indicated fluency in other languages aside from English which included: Spanish (30%, n= 50), French (4%, n= 4), German (2%, n= 2), Chinese (1%, n= 1), and other (4%, n= 6). In terms of SIG membership, 28% (n= 47) of respondents were affiliated with SIG 14 (Communication Disorders and Sciences in Culturally and Linguistically Diverse [CLD] Populations), 28% (n= 47) were affiliated with SIG 16 (School-Based Issues), and 9% (n= 15) were affiliated with SIG 1(Language Learning and Education). There was at least one respondent affiliated with each of the SIGs except SIG 3 (Voice and Voice Disorders) and SIG 15 (Gerontology). Thirty-three percent of the respondents were not affiliated with any SIGs. See Figure 1 for an illustration of the number of respondents

affiliated with each SIG.



Survey respondents identified themselves as belonging to one of the following categories: monolingual clinicians providing services to bilingual students (46%, n= 76), monolingual clinicians providing services to monolingual students (43%, n= 71), bilingual clinicians providing services to bilingual students (30%, n=50), or bilingual clinicians providing services to monolingual students (18%, n= 30). These data indicated that the majority of survey respondents were monolingual clinicians providing services to monolingual and bilingual students. Seventy-seven percent (n= 125) of respondents indicated that they were not registered on ASHA's bilingual service providers database, with the remaining 23% (n= 37) indicating that they were registered. Eighty-one percent of respondents (n= 131) reported that they currently had bilingual students on their caseloads; the remaining 19% of respondents (n= 30) reported having no bilingual students on their caseloads. Of those who reported having bilingual students on their

caseloads, respondents reported the approximate percentage of bilingual students on their caseloads: 48% (n= 80) of the respondents indicated that 1-20% of the students on their caseloads were bilingual, and 14%(n= 23) of the respondents indicated that bilingual students comprise 80%-100% of their caseloads. For additional percentages, please refer to Figure 2.



### **Respondents' Years of Experience, Setting, and Caseload**

Respondents also indicated their years of professional experience when completing this survey. Thirty-one of respondents (n= 51) had been practicing for over fifteen years. In terms of work settings, respondents predominantly worked in suburban areas (46%, n= 75) followed by urban areas (36%, n= 59), and rural areas (18%, n= 29).

Survey respondents represented 33 different states in four distinct geographical regions: Northeast (Connecticut, Maine, Massachusetts, New Jersey, New York,

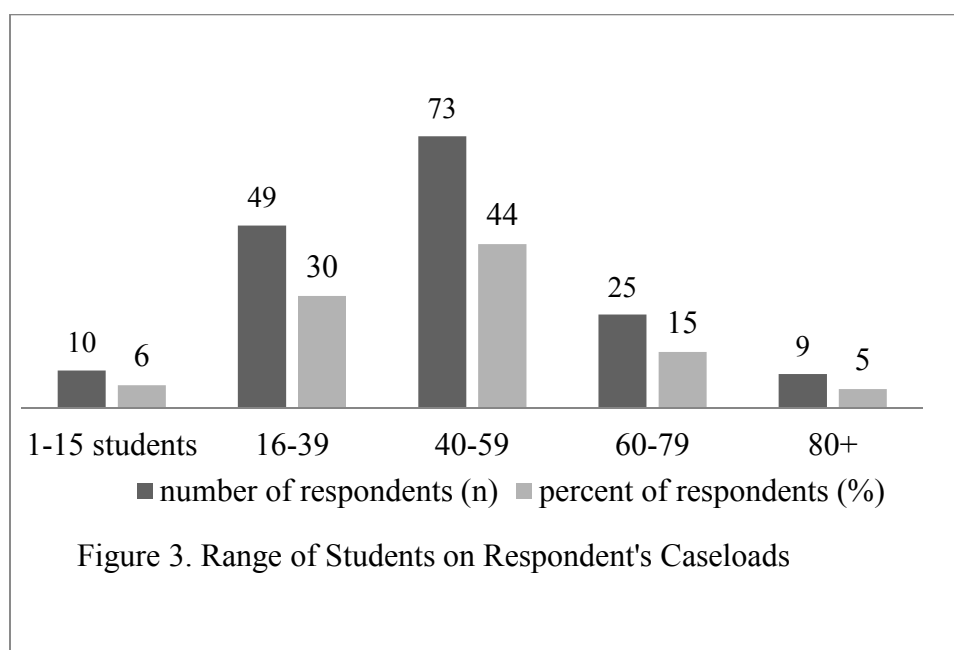


Maryland, and Pennsylvania), South (Florida, Georgia, North Carolina, South Carolina, Virginia, Kentucky, Arkansas, Louisiana, Oklahoma, and Texas), Midwest (Illinois, Michigan, Ohio, Wisconsin, Iowa, Minnesota, and Nebraska), and West (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, California, Hawaii, Oregon, and Washington). Only states with at least one participant were assigned to a geographical region. Survey respondents identified as residents of geographical regions as follows: Northeast (7%, n= 12), South (29%, n= 48), Midwest (39%, n= 65), and West (24%, n= 40). States with the largest numbers of respondents included Illinois (21%, n= 35), Texas (15%, n= 25), California (12%, n= 20), and Ohio (10%, n= 16). Table 1 illustrates the number of respondents by state and region.

Table 1  
*Outline of Respondents by State and Region*

North East			Middle West		
State	n	Percent	State	n	Percent
CT	1	1%	IA	7	4%
MA	2	1%	IL	35	21%
MD	1	1%	MI	1	1%
NJ	2	1%	MN	2	1%
NY	4	2%	NE	3	2%
PA	2	1%	OH	16	10%
total	12	7%	WI	1	1%
			total	65	39%
South			West		
AR	2	1%	AZ	1	1%
FL	10	6%	CA	20	12%
GA	3	2%	CO	5	3%
KY	1	1%	DE	1	1%
LA	1	1%	HI	2	1%
NC	3	2%	ID	2	1%
OK	1	1%	NV	1	1%
SC	1	1%	OR	2	1%
TX	25	15%	WA	5	3%
VA	1	1%	WY	1	1%
total	48	29%	total	40	24%

Additionally, respondents identified the populations with whom they work. The majority of respondents (89%, n= 148) reported working with school age students (ages 5-12), though 65% (n=108) of respondents reported working with pre-kindergarten students (ages 2-4), indicating that most study participants work with multiple age groups of students on a daily/weekly basis. Caseload size was also noted by range with 44% (n= 73) of respondents reporting a caseload size between 40-59 students and 30% (n= 49) reporting a caseload size between 16-39 students. See Figure 3 for more details on respondents' caseload sizes.



## Assessment Procedures/Practices

**Frequency of assessment.** Respondents were asked to identify the frequency with which they perform bilingual assessments as well as the various methods and measures they use for assessment. Frequency of assessments was measured on a Likert-

type scale as follows: *often* (10 or more times a year), *sometimes* (5-10 times a year), *rarely* (<5 times per year), and *never*. Results indicated that 32% (n= 53) of respondents completed bilingual assessments *often*. Eighteen percent (n=30) indicated that they performed bilingual assessments *sometimes*. Those who performed bilingual assessments *rarely* comprised 25% (n= 42) of respondents, and 11% (n= 19) indicated that they *never* performed bilingual assessments.

The survey also collected information regarding the frequency with which respondents use various assessment techniques and measures to provide information about whether SLPs in schools are using recommended practices. Of the 166 respondents who completed the survey, only 130 completed the portion pertaining to assessment techniques; therefore, percentages reflect this quantity. Assessment techniques included: the language(s) in which the assessments were conducted, examination of test manuals for cultural bias, focus on gathering information on the student's language skills rather than English proficiency, observations (in structured or unstructured academic contexts, or within the home), and use of interpreters. For each technique respondents selected the frequency based on a Likert scale: *often* (70-100% of the time), *sometimes* (40-69% of the time), *rarely* (1-39% of the time), *never* (0% of the time).

Results indicated that 60% (n=77) of respondents complete assessment in the child's native language and English *often*. Similarly, 74% (n=96) conduct interviews with parents and caregivers about a student's language abilities *often*. Fifty-one percent of respondents (n=74) indicated that they *often* conduct interviews in order to gain information about a child's cultural background. An additional 51% (n=66) examine

assessment measures for cultural bias *often*. Eighty-seven percent of respondents (n=116) gather information about the student from teachers *often*, and 58 (n=76) *often* observe the student in structured academic contexts. Respondents also indicated the frequency with which they observe students in unstructured academic contexts with the most common being *sometimes*: 34% (n=44). Seventy-three percent of respondents *never* observe the student in question in their home environment. Results also indicated that 33% (n=43) *often* use interpreters, while 34% (n=44) *never* utilize them. Table 2 delineates the frequency with which respondents use various assessment techniques to identify bilingual children with language disorders by percentage and response rate.

Table 2

*Assessment Techniques Utilized in Bilingual Language Assessments*

<b>Assessment techniques</b>	<b>often (70-100% of the time)</b>	<b>sometimes (40-69% of the time)</b>	<b>rarely (1-39% of the time)</b>	<b>never (0% of the time)</b>
	<b>%(n)</b>			
Complete assessments in both the child's native language and English	59.69% (77)	17.05% (22)	10.85% (14)	12.4% (16)
Conduct interviews with parents and caregivers about the student's language abilities	73.85% (96)	17.69% (23)	3.85% (5)	4.62% (6)
Conduct interviews to gain information about a child's cultural background	57.36% (74)	22.48% (29)	13.95% (18)	6.2% (8)
Examine assessment measures for cultural bias	51.16% (66)	23.26% (30)	17.83% (23)	7.75% (10)
Focus on measuring language skills rather than English proficiency	86.92% (113)	8.46% (11)	2.31% (3)	2.31% (3)
Gather information about the student from teachers	89.23% (116)	7.69% (10)	0.77% (1)	2.31% (3)
Observe the child in structured academic contexts (classroom)	58.46% (76)	30.77% (40)	9.23% (12)	1.54% (2)
Observe the child in unstructured academic contexts (recess, lunch, etc.)	32.56% (42)	34.11% (44)	25.58% (33)	7.75% (10)
Observe the child at home	4.72% (6)	3.15% (4)	19.69% (25)	72.44% (92)
Use interpreters to assist in assessing bilingual children	33.08% (43)	19.23% (25)	13.85% (18)	33.85% (44)

Using the same Likert-type scale described above, 129 respondents answered question 17 regarding the frequency with which various methods of assessment are utilized. Assessment methods included use of standardized measures (administered in the child's native language, English or both), informal measures (administered in the child's native language, English or both), language sampling (administered in the child's native language, English or both), dynamic assessment in conjunction with formal language tests, and a combination of formal and informal measures. The majority of respondents indicated that they administered standardized assessments in the child's native language and English 49% (n=64) *often*. Comparably, 41% (n=52) of respondents indicated that they *never* administer standardized assessments in the child's native language only, and another 41% (n=52) indicated that they *never* administer standardized assessments in English only. Fifty-eight percent of respondents (n=74) indicated that they *often* complete informal assessments in both the child's native language and English. Accordingly, 44% (n=57) of respondents noted that they *never* use informal assessments in the child's native language only, and 41% (n=52) of respondents indicated that they *never* use informal assessments in English only. The data were similar for language sampling in which the majority of respondents indicated that they collect and analyze samples in both languages (36%, n= 47) *often*, with 39%(n=50) indicating that they *never* use samples in the child's native language only, and 41% indicating that they *never* collect and analyze samples in English only. In terms of dynamic assessment used in conjunction with formal language tests, 28% (n=36) indicated using this measure *often*, while another 28% (n=36) indicated using it *sometimes*. An additional 73% of respondents indicated using a

combination of formal and informal assessment measures *often*. See Table 3 for these data.

Table 3  
*Assessment Measures Utilized in Bilingual Language Assessments*

Assessment measures	often (70-100% of the time)	sometimes (40-69% of the time)	rarely (1-39% of the time)	never (0% of the time)
	% (n)			
Standardized assessments in both the child's native language and English	49.23% (64)	19.23% (25)	15.38% (20)	16.15% (21)
Standardized assessments in the child's native language only	7.87% (10)	29.92% (38)	21.26% (27)	40.94% (52)
Standardized assessments in English only	12.6% (16)	20.47% (26)	25.98% (33)	40.94% (52)
Informal assessments in both the child's native language and English	58.27% (74)	21.26% (27)	7.09% (9)	13.39% (17)
Informal assessments in the child's native language only	7.75% (10)	26.36% (34)	21.71% (28)	44.19% (57)
Informal assessments in English only	12.7% (16)	19.84% (25)	26.19% (33)	41.27% (52)
Language samples (collected and analyzed) in child's native language and English	36.43% (47)	24.81% (32)	17.83% (23)	20.93% (27)
Language samples (collected and analyzed) in the child's native language	11.72% (15)	31.25% (40)	17.97% (23)	39.06% (50)
Language samples (collected and analyzed) in English only	9.45% (12)	20.47% (26)	29.13% (37)	40.94% (52)
Dynamic assessment in conjunction with formal language tests	28.12% (36)	28.12% (36)	20.31% (26)	23.44% (30)
Combination of formal and informal assessment measures	73.44% (94)	17.97% (23)	3.91% (5)	4.69% (6)

**Common assessment tools.** Respondents were then asked to list the top five tests or informal measures used with bilingual students noting the language of administration. A spreadsheet was created with columns indicating the rank the participants labeled each test (i.e. most frequently used, second most used ...). A tally was kept for each test for each rank it received from respondents, and a total was derived from the tests which were used most often across columns. Using this method, the top 20 most frequently used assessment measures included: language sampling, Clinical Evaluation of Language Fundamentals, Fourth Edition (CELF-4) , Preschool Language Scale (PLS-5), interviews, Expressive One Word Picture Vocabulary Test (EOWPVT), Receptive One Word Picture Vocabulary Test (ROWPVT), narrative retellings, Peabody Picture Vocabulary Test (PPVT), Comprehensive Assessment of Spoken Language (CASL), Clinical Evaluation of Language Fundamentals-Preschool, Second Edition (CELF-P2), observations, Spanish Language Assessment Procedures (SLAP), and the Structured Photographic Expressive Language Test (SPELT). The language used in administering was also noted with the exceptions of observations and interviews. Within the top 20 assessments, seven were administered in Spanish, with the remaining 11 having been administered in English. See Table 4 for a more detailed illustration of these results.

**Dynamic assessment.** Additionally, the survey asked respondents to identify the barriers to dynamic assessment. Respondents indicated the following: no barriers to the use of dynamic assessment, unfamiliarity with dynamic assessment, time allocations for dynamic assessment, and training to use dynamic assessment. Results indicated that a lack of time was the greatest barrier preventing respondents from using dynamic



assessment (36%, n= 60). Unfamiliarity with dynamic assessment (19%, n= 31) and lack of training in dynamic assessment (22%, n=37) were other barriers. One-third of respondents (n= 57) indicated that they had no barriers to the use of dynamic assessment. Fourteen respondents used an “other” option to describe alternative barriers to dynamic assessment and listed district procedures, feeling unqualified despite trainings, and time constraints.

Table 4  
*Top 20 Most frequently Used Tests or Informal Measures used in Bilingual Language Assessments*

Assessment/ procedure	Language	Frequency
Language Sampling	English	40
CELF- 4	Spanish	37
PLS- 5	English	34
PLS- 5	Spanish	34
Interviews		33
EOWPVT	Bilingual	30
Language Sampling	Spanish	28
ROWPVT	Spanish	27
ROWPVT	English	22
EOWPVT	English	21
CELF- 4	English	19
Narrative Retells	English	11
PPVT-4	English	11
CASL	English	9
CELF-2 Preschool	Spanish	8
CELF-2 Preschool	English	7
Classroom Observation		7
Observation	English	7
SLAP	Spanish	7
SPELT-3	English	6

## **Graduate Preparation, Supports & Barriers**

The final questions of the survey inquired about respondents' perceptions of their graduate preparation. Specifically, questions pertained to whether respondents felt that they received adequate theoretical instruction in bilingual service provision and were provided sufficient opportunities for practical and clinical experiences with bilingual clients. Responses were measured using a Likert-type scale (strongly agree, agree, neutral, disagree, and strongly disagree). Respondents' perceptions of the adequacy of their theoretical instruction in bilingual service provision were as follows: 25% (n= 41) agreed and 13% (n= 21) strongly agreed that they were adequately prepared, while 31% (n= 51) disagreed and 15% (n= 24) strongly disagreed. Additionally, 40% (n= 65) of respondents disagreed and 27% (n= 44) strongly disagreed that their graduate programs provided adequate opportunities for practical clinical experiences for language evaluations with bilingual students, while 9% (n=14) indicated neutrality and 25% (n=40) agreed or strongly agreed. Respondents also identified perceptions of whether or not they have access to adequate opportunities for continuing education for bilingual language assessment. The majority of respondents indicated that they agreed (39%, n=62) or strongly agreed (16%, n=26) that they had access to adequate opportunities for continuing education for bilingual language assessment, while 19% (n=31) were neutral, another 19% (n=31) disagreed and 6% (n=9) strongly disagreed.

Survey respondents also answered several open-ended questions to obtain information regarding barriers and supports to bilingual language assessments.

Undergraduate research assistants trained in qualitative analysis identified trends among

the responses in order to classify the frequency of common themes by aligning similar answers with one another into categories for comparison and analysis. Responses often included multiple themes; therefore, the themes will be discussed according to rank order. Themes cited as barriers included: lack of interpreters (n=26), lack of time (n=26), lack of training to provide services to bilingual students (n=25), lack of resources in terms of available standardized assessments (n=21), cultural differences (n=19), lack of knowledge of other languages(n=19), inappropriate referrals (n=17), lack of training for interpreters (n=16), communication with parents (n=13), lack of funding (n=9), lack of support from administrators(n=6), lack of information (n=2), and the child already having a disorder in the native language (n=2). Supports identified for bilingual assessment included: other SLPs and staff (n=54), interpreters (n=25), classroom teachers, ELL specialists, other professionals within the school [n=24], research (journal articles, books, and the internet; n=16), other professionals (n=15), ASHA (n=14), educational preparation/personal experience (n=14), client's parents and families (n=13), and professional development (continuing education, additional training; n=11).

## CHAPTER V

### DISCUSSION

Overall, it appears that SLPs are developing an increasing understanding of the needs of CLD students and an increasing competency in bilingual language assessment. The results of this study suggest that SLPs are implementing best practices more than in prior years (Caesar & Kohler 2007); yet there are areas in which improvement may be warranted, including increased use of a child's native language, use of interpreters to aid in assessment, and selection of assessment measures. Specific results from this study are discussed below.

#### **Representativeness of Study Participants**

In order for the results from this current study to be generalizable, it was important to recruit a participant group which reflected national trends in school-based practice. Thus, the demographic information collected from participants was compared to the *ASHA 2014 SLP Schools Survey* (2014) to determine the similarities and differences between study participants and the population of school-based SLPs, at large. This comparison indicated that the participant group in this study was representative in terms of gender, ethnicity, and caseload type and size to that of the national average (ASHA, 2014). One major difference between the participants in this study and current ASHA practitioners has to do with SIG representation: 73% of respondents were affiliated with

at least one SIG whereas in the *ASHA 2014 SLP Schools Survey*, only 14.9% were affiliated with ASHA SIGs. This may correspond with the method of dissemination of this survey.

One key rationale for replicating Caesar and Kohler's (2007) original study was to expand the participant group to include SLPs from a wider geographic range in order to obtain results more representative of nationwide bilingual language assessment practices. While the original study had more participants (439 as compared to 166), the current study included respondents from 35 different states, rather than one.

### **Assessment Procedures/Practices**

In terms of language assessment practices, SLPs reported use of a combination of formal and informal measures with test administration occurring in a variety of languages. Each of these is discussed below.

**Assessment administration and selection.** Results indicated that the majority of respondents use certain best practices for bilingual assessment at least "sometimes," including: examining test manuals for cultural bias (74%), combined use of formal and informal assessments (94%), conducting interviews with parents/caregivers (92%), observation the child in academic settings (89%), gathering of information from teachers (97%), and focus on measuring language skills rather than knowledge of English proficiency (95%). In comparison, usage of best practices in Caesar and Kohler's (2007) study included: combination of formal and informal procedures (98%), multiple sources of information (98%), observation in a variety of contexts (82%), use of

interpreters (70%), and consistent use of assessment in the child's native language (53%). Differences between the Caesar and Kohler (2007) study and the current study lie in that only 52% of respondents for the current study indicated use of an interpreter at least "sometimes." Additionally, in the present study the percentage of assessments conducted in the child's native language and English was notably higher at 77%. Based on this information school-based SLPs across both studies are following the recommended practices of using both formal and informal assessments, collecting information from several sources, and observing the student's language abilities. The points of difference (use of interpreters and assessments in native language) may be related to the pool of participants of each study. Because the SLPs in the Caesar and Kohler (2007) study were predominantly monolingual (98%), they may have relied more heavily on use of interpreters than in the present study in which 30% of SLPs identified themselves as bilingual serving bilingual students. This may be a possible reason why only 52% of SLPs in the present study indicated use of interpreters at least sometimes. Similarly, as more SLPs speak more than one language, they can administer assessments in students' native language without the facilitation of an interpreter.

Additionally, results indicated that the majority of SLPs are using a combination of formal and informal measures in assessments of bilingual children to gain a more accurate portrayal of the child's overall language capabilities. This is the most suggested means of language assessment since no single assessment measures exist which possess high diagnostic accuracy in the bilingual population (Dollaghan et al. 2011). Further, a combination of assessment approaches is thought to provide more information about a

child's language system than one assessment measure or technique alone (Dollaghan et al., 2011).

Much like the Caesar and Kohler (2007) study, the most commonly used informal measure identified in the current study was language sampling in English. In the present study, collection of a language sample in English was the most commonly used assessment technique overall. In the Caesar and Kohler (2007) study, however, the overall most commonly used assessment measure was the PPVT-3. This difference is noteworthy because language sampling may yield more information related to clinical markers of SLI, as well as the presence or absence of developmentally appropriate language structures. Additionally, concerns with use of the PPVT-3 as a diagnostic measure were noted with monolingual students; Betz et al. (2013) suggested that this test is known to have poor diagnostic accuracy. Therefore, its use as a diagnostic assessment of bilingual students suspected of having language impairment has been disconcerting.

In the present study, some of the most commonly used standardized assessments included the Spanish and English versions of the CELF-4, the PLS-4, the ROWPVT, and the EOWPVT in addition to the PPVT-4 and the CASL in English. These results indicate a wider variety in standardized assessment use and inclusion of more Spanish versions of assessments than the Caesar and Kohler (2007) study. This may be related to the increasing availability of Spanish versions of English standardized assessments. Also, many of the standardized assessments in English are known to lack information regarding diagnostic accuracy including the EOWPVT-2, ROWPVT-3, and PPVT-4. The PLS-4 was also found to have inadequate diagnostic accuracy (Betz et al. 2013). Furthermore,

Spanish versions of those measures have not been examined empirically for diagnostic accuracy, nor have the updated versions of these assessments (CELF-4, PLS-5). This information suggests that while SLPs are administering Spanish versions of measures suited to a child's native language, these assessments may not provide reliable and valid information for identification of language impairment. It seems as though school-based SLPs are becoming increasingly aware of the need to have measures suited to Spanish speaking children, but may not be as concerned with the psychometric properties of the assessments. Another critical factor for clinicians to consider is the normative samples included in Spanish versions of assessments. SLPs must examine manuals to identify whether the normative population included bilingual children or monolingual children to ensure that the assessment is representative of the child's linguistic and developmental profile.

**Dynamic assessment.** The data regarding use of dynamic assessment indicated that 56% of respondents used dynamic assessment in conjunction with standardized testing at least "sometimes"; 43% indicated that they used it rarely or never. This is certainly an improvement from the time of Caesar and Kohler's (2007) study in which dynamic assessment was not mentioned by respondents as a measure used to identify bilingual children suspected of language impairment. The increased use of dynamic assessment also demonstrates how informal assessment practices can be used to support findings of standardized tools and can identify potential targets for treatment. Due to the nature of dynamic assessment, MLEs and modifiability scores may provide insights into how the child responds to intervention and areas of weakness that may need to be



addressed. Because previous studies have identified dynamic assessment as a promising indicator of language impairment in CLD students, it is encouraging to see SLPs in schools using this technique more than in prior years. Additionally, use of dynamic assessment was reported in three distinct languages (English, Spanish, and Vietnamese) which is of interest because the SLPs in this relatively small sample were using it in multiple contexts implying that school-based SLPs throughout the United States may be using dynamic assessment in other languages as well.

**Language for evaluation.** Respondents' lists of tests most commonly administered included measures in English (n=39) and Spanish (n=32), with one mention of language sampling and dynamic assessment being completed in Vietnamese. These results demonstrate that English assessments still appear to be the most commonly used; however, it is encouraging that assessments in other languages are being used as well. This is in contrast with the Caesar and Kohler (2007) study in which 98% of the assessments listed were published as English tests, with 75% of respondents indicating that English was the language most often used during assessments of bilingual children. These results demonstrate that while English measures are the most commonly used with bilingual students, SLPs are becoming increasingly aware of the need to administer assessments in the student's native language. This improvement is critical because assessments conducted in English only rather than in both the child's native language and English, may not provide clinicians with accurate portrayals of a student's overall language abilities (Thordardottir et al., 2006).

## **Graduate Preparation, Supports & Barriers**

**Graduate preparation.** In 2007, 28% of respondents in Caesar and Kohler's study felt that their theoretical education in bilingual language assessment was sufficient; 11% indicated that they had adequate practical training to practice clinically. In the present study, 38% of respondents agreed that they had adequate theoretical instruction and 25% agreed that they had sufficient practical training to practice clinically. These results indicate that the majority of respondents perceived their graduate education to be lacking; however, the increase in respondents feeling prepared to assess CLD students is promising. These data are consistent with findings from the *ASHA 2014 SLP Schools Survey* which indicated that school-based SLPs perceive themselves to be only adequately prepared to assess the language of CLD students (ASHA, 2014).

Graduate programs should provide as much theoretical information and practical experience regarding bilingual language assessment to their students as possible because children from CLD backgrounds are likely to be seen in most school settings in which a clinician may be practicing (U.S. Department of Education, 2013). One way of addressing this need is the insertion of assignments related to bilingual assessment into the graduate curriculum. Additionally, clinical placements or experiences in diverse settings would be beneficial. Graduate programs in speech-language pathology should actively seek out opportunities to design and expand opportunities for students to work with CLD students in the context of assessment. The current study explored only the assessment of bilingual students; however, graduate programs should also consider the importance of prevention and intervention for CLD populations.

**Supports for assessment.** Respondents identified supports that assist in creating more accurate and thorough assessments of bilingual students. Such supports included: other professionals within the schools, research, ASHA, educational preparation, clients and families, and professional development. Finding a working interdisciplinary team is not only beneficial for students but also for clinicians as it encourages them to consider the entire student and interact with professionals who may be able to offer information regarding cultural differences or other insights. Using resources available online may be valuable, but clinicians must be wary of the sources of the information lest they be misinformed. Moreover, ASHA provides resources beyond publications to assist clinicians in applying recommended practices, and providing continuing education opportunities. The support of the clients and families seems to be indicative of thriving therapeutic relationships in which both parties are assisting each other in order to meet the needs of students.

The supports described by participants may also be useful as an example of what types of structures work well. Interestingly, some of the barriers were also described as supports (i.e. interpreters, administration, and the client/family). Supports were generally relational, indicating that if there are working relationships between the clinician and administrators, interpreters, families, and other professionals, these may likely be supporting the assessment process.

**Barriers to assessment.** For the most part, barriers described by participants involved access to resources including: time, financial support, language support of an interpreter, and training in bilingual assessment. Other barriers identified were cultural

differences, lack of communication between caregivers and professionals, and lack of support from administrators.

These barriers likely have foundational issues that make them unlikely to be corrected easily; however, it may be beneficial to consider ways in which some of the barriers might become less problematic. Likely, no simple solution exists to easily overcome these barriers, yet, ASHA and state associations may be of support and assistance in these matters by providing resources and networking opportunities in which SLPs might learn from the expertise and experience of other clinicians. Advocacy could be a critical component to alleviating these barriers, as well. School district administrators must be made aware of the need for resource allocation for bilingual language assessment. In order to ethically, and competently assess CLD students, clinicians should feel adequately trained, have an adequate amount of time to gather information, and support for finding or training interpreters. Further, SLPs ought to seek out opportunities to learn about bilingual assessment through continuing education, or other available resources such as other clinicians, independent agencies, state associations, or ASHA.

### **Clinical Implications**

Based on this survey it appears as though SLPs working in schools are becoming more aware of recommended practices in bilingual language assessment. There is still room for growth as researchers are continuing to examine ways to best identify children with language impairments from CLD backgrounds. In regards to SLP conformation to

ASHA's best practice guidelines, it would appear that SLPs within schools are attempting to use a combination of measures in order to gain a more detailed account of the student's overall language abilities in the first language and English. Use of informal measures such as language sampling, interviewing (teachers and caregivers), and observation also provide clinicians with a semblance of what linguistic demands are placed on the child, and the child's ability to respond to linguistic demands of daily activities inside and beyond the classroom.

When considering the national standards implemented by IDEA in light of the results of this study, it seems as though school-based SLPs are working to provide appropriate and accurate language assessments for bilingual students. To this end, SLPs are examining test manuals for cultural bias, administering assessments in both the child's native language and English, and would appreciate opportunities to increase their training in the area of bilingual language assessment. The findings of this study do not yield information regarding the manner in which SLPs administer standardized assessments, or informal measures, but rather give information about the most frequently used assessments. Therefore, it is not possible to know whether standardized assessments are used or the purposes for which they are valid and reliable.

### **Limitations and Directions for Future Research**

Limitations of the present study are related to the sample size and the pool of respondents. The number of participants who took part in this study was smaller than anticipated. While respondents represented a broader geographic representation than was observed in Caesar and Kohler's study (2007), a larger participant group would have

been more desirable to encourage more generalizable results. While a variety of methods were attempted to find participants, the lack of easy access to practicing school-based SLPs for participant recruitment resulted in the largest limitation for this study.

The most visible avenue for participant recruitment existed in the use of online SIG Communities. Over half of the respondents for this study were members of ASHA SIGs, representing a much larger percentage of this participant group than is observed in the national population of school-based SLPs. This may have affected the results in that SLPs who are affiliated with SIGs may be more active in seeking out information about issues related to specific types of service delivery (i.e. language learning, school-based issues, and CLD populations) than clinicians who are not affiliated with SIGs.

In the future, it is important to continue this line of research to expand what is known about the assessment practices of school-based SLPs in working with children from CLD populations. As information continues to emerge regarding typical bilingual language development, the lines between typical and disordered language development may become clearer. Given the results of this study, future research into the diagnostic accuracy of Spanish versions of measures may be beneficial as well as increasing access to and awareness of continuing education courses related to bilingual language assessment. Furthermore, because IDEA mandates that assessments are administered in the language that is most likely to provide information by trained and knowledgeable personnel in accordance with instructions of the assessment, further investigation into the use of interpreters could yield useful information into current assessment practices.

Specifically, researchers may want to explore how interpreters are located, how they are trained, costs involved, and accuracy of data collection.

## **Conclusion**

As students from CLD backgrounds continue to increase within schools, SLPs must rise to the challenge of identifying language differences from disorders. Research is continually emerging to shed light on best practices, and effective ways to reliably distinguish children with language impairments from those with typical development. Because SLPs in schools are held to both ASHA best practices, and IDEA mandates, it is imperative that clinicians not only become aware of these standards but find ways to ensure that these practices are being implemented to best identify the child's overall language use and needs.

## REFERENCES

- American Speech-Language-Hearing Association. (2004). *Preferred practice patterns for the profession of speech-language pathology* [Preferred Practice Patterns]. Available from [www.asha.org/policy](http://www.asha.org/policy)
- American Speech-Language-Hearing Association. (2014). 2014 *Schools survey. Survey summary report: Number and type of responses, SLPs*. Available from [www.asha.org](http://www.asha.org).
- American Speech-Language-Hearing Association (2013) *Monthly Totals per SIG*. Rockville, MD: Author
- Bedore, L. M., & Pena, E. D. (2008). Assessment of bilingual children for identification of language impairment: Current findings and implications for practice. *International Journal of Bilingual Education and Bilingualism*, 11(1), 1-29.
- Betz, S., K., Eickhoff, J., R., Sullivan, S., F., Nippold, M., & Schneider, P. (2013). Factors influencing the selection of standardized tests for the diagnosis of specific language impairment. *Language, Speech & Hearing Services in Schools*, 44(2), 133-146. doi:10.1044/0161-1461(2012/12-0093
- Caesar, L. G., & Kohler, P. D. (2007). The state of school-based bilingual assessment: Actual practice versus recommended guidelines. *Language, Speech & Hearing Services in Schools*, 38(3), 190-200.
- Cummins, J., & California State Univ., L. r. (1979). *Linguistic Interdependence and the Educational Development of Bilingual Children. Bilingual Education Paper Series, Vol. 3 No. 2.*
- Dollaghan, C. A., Horner, E. A., & Oetting, J. (2011). Bilingual language assessment: A meta-analysis of diagnostic accuracy. *Journal of Speech, Language & Hearing Research*, 54(4), 1077-1088. doi:10.1044/1092-4388(2010/10-0093)
- Friberg, J. C. (2010). Considerations for test selection: How do validity and reliability impact diagnostic decisions? *Child Language Teaching & Therapy*, 26(1), 77-92. doi:10.1177/026565900934997



- Gorman, B. K., Gillam, R.B., (2003). Phonological Awareness in Spanish: A tutorial for speech-language pathologists. *Communication Disorders Quarterly*. 25 (1), 13-22
- Grosjean, F., (1989). Neurolinguists, beware! The bilingual is not two monolinguals in one person. *Brain and Language*, 36 (1), 3-15
- Gutiérrez-Clellen, V. F., & Simon-Cerejido, G. (2010). Using nonword repetition tasks for the identification of language impairment in spanish-english-speaking children: Does the language of assessment matter? *Learning Disabilities Research & Practice (Wiley-Blackwell)*, 25(1), 48-58. doi:10.1111/j.1540-5826.2009.00300.x
- Gutierrez-Clellen, V., & Restrepo, M. A. (2000). Language sample analysis in spanish-speaking children: Methodological considerations. *Language, Speech & Hearing Services in Schools*, 31(1), 88-98.
- Gutiérrez-Clellen, V., & Peña, E. (2001). Dynamic assessment of diverse children: A tutorial. *Language, Speech & Hearing Services in Schools*, 32(4), 212-224.
- Hedge, M. P. Pomaville, F. (2012). Assessment of Communication Disorders in Children: Resources and Protocols. San Diego: Plural Publishing.
- Huang, R., Hopkins, J., & Nippold, M. A. (1997). Satisfaction with standardized language testing: A survey of speech-language pathologists. *Language, Speech & Hearing Services in Schools*, 28(1), 12-29.
- Individuals with Disabilities Education Act, 20 U.S.C. § 300.304 (2004)
- Kapantzoglou, M., Restrepo, M. A., & Thompson, M. S. (2012). Dynamic assessment of word learning skills: Identifying language impairment in bilingual children. *Language, Speech & Hearing Services in Schools*, 43(1), 8196 .doi:10.1044/0161-1461(2011/10-0095)
- Kohnert, Kathryn Windsor, Jennifer Yim, Dongsun. (2006). Do language-based processing tasks separate children with language impairment from typical bilinguals? *Learning Disabilities Research & Practice (Wiley-Blackwell)*, 21(1), 19-29. doi:10.1111/j.1540-5826.2006.00204.x
- Lee, S. A. S., & Gorman, B. K. (2013). Nonword repetition performance and related factors in children representing four linguistic groups. *International Journal of Bilingualism*, 17(4), 479-495. doi:10.1177/1367006912438303

- Lidz, C., & Peña, E. (1996). Dynamic assessment: the model, its relevance as a nonbiased approach, and its application to Latino American preschool children. *Language, Speech & Hearing Services In Schools*, 27(4), 367-372.
- Padilla, A. (2007). *Handbook of Multicultural Assessment: Clinical, Psychological, and Educational Applications*. Hoboken: Jossey-Bass.
- Paradis, J., Genessee, F., & Crago, M. B. (2011). *Dual Language Development & Disorders* (Second ed., pp. 62-82). Baltimore, MD: Paul H. Brookes Publishing Co.
- Peña, E. D. (2007). Lost in translation: Methodological considerations in cross-cultural research. *Child Development*, 78(4), 1255-1264.
- Peña, E., Iglesias, A., & Lidz, C. S. (2001). Reducing Test Bias Through Dynamic Assessment of Children's Word Learning Ability. *American Journal Of Speech-Language Pathology*, 10(2), 138.
- Restrepo, M. A. (1998). Identifiers of predominantly spanish-speaking children with language impairment. *Journal of Speech, Language & Hearing Research*, 41(6), 1398-1411.
- Roseberry-McKibbin, C. (2007). *Language disorders in children: A multicultural case perspective*. Boston: Pearson.
- Spaulding, T. J., Plante, E., & Farinella, K. A. (2006). Eligibility criteria for language impairment: Is the low end of normal always appropriate? *Language, Speech & Hearing Services in Schools*, 37(1), 61-72.
- Summers, C., Bohman, T. M., Gillam, R. B., Peña, E., & Bedore, L. M. (2010). Bilingual performance on nonword repetition in spanish and english. *International Journal of Language & Communication Disorders*, 45(4), 480-493  
doi:10.3109/13682820903198058
- Thordardottir, E., Rothenberg, A., Rivard, M., & Naves, R. (2006). Bilingual assessment: Can overall proficiency be estimated from separate measurement of two languages? *Journal of Multilingual Communication Disorders*, 4(1), 1-21.  
doi:10.1080/14769670500215647
- Turnbull, K. L. Justice, L.M. (2011). *Language Development From Theory to Practice* (2<sup>nd</sup> ed.). Columbus, OH: Pearson.
- U.S. Department of Education, National Center for Education Statistics. (2013). *The Condition of Education 2013* (NCES 2013-037), English Language Learners.

Windsor, J., Kohnert, K., Lobitz, K. F., & Pham, G. T. (2010). Cross-language nonword repetition by bilingual and monolingual children. *American Journal of Speech-Language Pathology*, 19(4), 298-31

## APPENDIX

### CURRENT PRACTICES OF SCHOOL-BASED SPEECH-LANGUAGE PATHOLOGISTS FOR BILINGUAL ASSESSMENT

1. What is your gender?
  - a. Male
  - b. Female
2. What is your ethnicity?
  - a. White
  - b. Hispanic/Latino
  - c. African American
  - d. Asian/Pacific Islander
  - e. Other
3. Do you speak any language other than English fluently? Mark all languages that apply:
  - a. Spanish
  - b. French
  - c. German
  - d. Chinese
  - e. Hindi
  - f. Tagalog
  - g. Vietnamese
  - h. Korean
4. Please mark all identifiers that describe you
  - a. Monolingual clinician providing services to bilingual children
  - b. Monolingual clinician providing services to monolingual children
  - c. Bilingual clinician providing services to bilingual children
  - d. Bilingual clinician providing services to monolingual children
5. Are you registered with American Speech-Language-Hearing Association's (ASHA's) bilingual service provider database? (y/n)
  - a. Yes
  - b. No
6. Are you affiliated with any of ASHA's special interest group (SIGs)? If so, please mark all that apply.
  - a. None
  - b. SIG 1 Language Learning and Education
  - c. SIG 2 Neurophysiology and Neurogenic Speech and Language Disorders
  - d. SIG 3 Voice and Voice Disorders
  - e. SIG 4 Fluency and Fluency Disorders
  - f. SIG 5 Speech Science and Orofacial Disorders
  - g. SIG 6 Hearing and Hearing Disorders: Research and Diagnostics
  - h. SIG 7 Aural Rehabilitation and Its Instrumentation
  - i. SIG 8 Public Health Issues Related to Hearing and Balance

- j. SIG 9 Hearing and Hearing Disorders in Childhood
  - k. SIG 10 Issues in Higher Education
  - l. SIG 11 Administration and Supervision
  - m. SIG 12 Augmentative and Alternative Communication
  - n. SIG 13 Swallowing and Swallowing Disorders (Dysphagia)
  - o. SIG 14 Communication Disorders and Sciences in Culturally and Linguistically Diverse (CLD) Populations
  - p. SIG 15 Gerontology
  - q. SIG 16 School-Based Issues
  - r. SIG 17 Global Issues in Communication Sciences and Related Disorders
  - s. SIG 18 Telepractice
7. How many years have you been practicing as a school-based clinician?
- a. 1-3
  - b. 4-6
  - c. 7-10
  - d. 11-15
  - e. Over 15
8. In which state do you currently practice?
- a. AL
  - b. AK
  - c. AR
  - d. AZ
  - e. CA
  - f. CO
  - g. CT
  - h. FL
  - i. GA
  - j. HI
  - k. IA
  - l. ID
  - m. IL
  - n. IN
  - o. KY
  - p. LA
  - q. MA
  - r. MD
  - s. ME
  - t. MI
  - u. MN

v. MO  
w. MS  
x. MT  
y. NC  
z. ND  
aa. NE  
bb. NJ  
cc. NH  
dd. NM  
ee. NV  
ff. NY  
gg. OH  
hh. OK  
ii. OR  
jj. PA  
kk. RI  
ll. SC  
mm. SD  
nn. TN  
oo. TX  
pp. UT  
qq. VT  
rr. VA  
ss. WA  
tt. WI  
uu. WV  
vv. WY

9. Characterize your work setting:
- a. Urban
  - b. Rural
  - c. Suburban
10. Which age categories do you work with? Mark as many as apply:
- a. Pre-kindergarten (age 2-4)
  - b. School age (age 5-12)
  - c. Adolescent (age 13-19)
  - d. Adult (over age 19)
11. How many students are on your current caseload?
- a. 1-15
  - b. 16-39

- c. 40-59
  - d. 60-79
  - e. 80+
12. Does your school/district mandate a standard procedure for assessing the language skills of bilingual children?
    - a. Yes
    - b. No
  13. Do you currently have bilingual students on your caseload? (Y/N) If no, proceed to question 18.
    - a. Yes
    - b. No
  14. What is the approximate percentage of bilingual students on your caseload?
    - a. 1-15
    - b. 16-39
    - c. 40-59
    - d. 60-79
    - e. 80+
  15. How frequently do you perform assessments of bilingual children? If the answer is never, proceed to question 18.
    - a. Never
    - b. Rarely (<5 times a year)
    - c. Sometimes (5-10 times a year)
    - d. Often (over 10 times a year)
  16. How frequently do you utilize the following techniques to identify bilingual children with language disorders? (often, sometimes, rarely, never)
    - a. Complete assessments in both the child's native language and English
    - b. Conduct interviews with parents and caregivers about the student's language abilities
    - c. Conduct interviews to gain information about a child's cultural background
    - d. Examine assessment measures for cultural bias
    - e. Focus on measuring language skills rather than English proficiency
    - f. Gather information about the student from teachers
    - g. Observe the child in structured academic contexts (classroom)
    - h. Observe the child in unstructured academic contexts (recess, lunch, etc.)
    - i. Observe the child at home
    - j. Use interpreters to assist in assessing bilingual children
  17. How frequently do you use each of the following assessment measures to diagnose bilingual children with language disorders? For the purposes of this



question, informal assessments include non-word repetition tasks, competing language processing tasks, or other criterion referenced measures.

- a. Standardized assessments in both the child's native language and English
  - b. Standardized assessments in the child's native language only
  - c. Standardized assessments in English only
  - d. Informal assessments in in both the child's native language and English
  - e. Informal assessments in the child's native language only
  - f. Informal assessments in English only
  - g. Language samples (collected and analyzed) in child's native language and English
  - h. Language samples (collected and analyzed) in the child's native language
  - i. Language samples (collected and analyzed) in English only
  - j. Dynamic assessment in conjunction with formal language tests
  - k. Combination of formal and informal assessment measures
18. Which of the following act as barriers to your use of dynamic assessment (choose as many as apply):
- a. I have no barriers to the use of dynamic assessment
  - b. I am not familiar with dynamic assessment
  - c. I lack the time to use dynamic assessment
  - d. I lack the training to use dynamic assessment
  - e. Other, please specify
19. Please list the top five tests and/or informal procedures which you use most frequently with bilingual children. (1 - used most often, 5 - used least often)
20. I believe that my graduate education provided me with adequate theoretical instruction related to conducting language assessments with bilingual students.
- a. Strongly Agree
  - b. Agree
  - c. Neutral
  - d. Disagree
  - e. Strongly Disagree
21. I believe that my graduate education provided me with opportunities to gain practical, clinical experience conducting language evaluations with bilingual students.
- a. Strongly Agree
  - b. Agree
  - c. Neutral
  - d. Disagree
  - e. Strongly Disagree

- 22. I believe that I have access to adequate continuing education opportunities in the area of bilingual language assessment.
  - a. Strongly Agree
  - b. Agree
  - c. Neutral
  - d. Disagree
  - e. Strongly Disagree
- 23. What are your greatest challenges/barriers in the assessment of bilingual children?
- 24. What are your greatest sources of support in the assessment of bilingual children?